

Remarks:

This response is responsive to the Office action dated February 23, 2005. Claims 14-28 have been cancelled without prejudice. In the Office action, claims 1-4, 6-8 and 29 were rejected, and claims 5 and 9-13 were objected to.

In the Office action, claims 1-4, 6-8 and 29 were rejected as being fully anticipated by Schmidt, U.S. Patent No. 6,512,626. Applicant traverses the rejection of these claims.

The conclusions of the Examiner as to all rejected claims are based on a fundamentally flawed conclusion. That conclusion requires that the term "waveguide" be given a meaning that is contrary to the meaning as understood by one skilled in the art and is contrary to the meaning used in Schmidt. When the meaning of the term as understood by one skilled in the art is applied to Schmidt, it is clear that Schmidt does not anticipate the claims as filed.

Further, the Examiner appears to be using hindsight, with knowledge of the devices disclosed in the present application, to modify Schmidt to reach the stated conclusions. There is no teaching, suggestion or reasoning in Schmidt that would lead one skilled in the art to make the modification suggested by the Examiner.

The Examiner states that "Schmidt teaches . . . a display device comprising: . . . a light waveguide layer (f and c) extending adjacent to at least the side of the cell, the light waveguide layer adapted to conduct light into the cell through the side of the cell (col. 3, ln. 39-40; col. 7, ln. 27-29)." This reasoning is applied to all of the rejected claims.

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The portions of Schmidt cited by the Examiner state:

Col. 3, ln. 39-40: "The light from the waveguide plate f) passes through the microcompartment film c) into the cavities."

Col. 7, ln. 27-29: "In a particular embodiment of the present invention, the material of the waveguide plate and the microcompartment film is identical."

The Examiner has apparently jumped to the conclusion that because two elements of the display device may be made of the same material, they thereby become a single element, and that single element functions as a waveguide. There is no description or suggestion in Schmidt supporting this conclusion. To the contrary, Schmidt teaches the importance of having a microcompartment film and a separate waveguide plate, and further, that the waveguide plate, and not the microcompartment film, may be eliminated.

Reference may be made to dictionaries and encyclopedias to determine common meanings of terms. Following are a sampling of definitions of "waveguide" from such sources.

Webster's Unabridged Dictionary, 1998: a conduit, as a metal tube, coaxial cable, or strand of glass fibers, used as a conductor or directional transmitter for various kinds of electromagnetic waves.

The New IEEE Standard Dictionary of Electrical and Electronics Terms, Fifth Edition, 1993: a system of material boundaries or structures for guiding electromagnetic waves.

The Columbia Electronic Encyclopedia, Sixth Edition, 2003: device that controls the propagation of an electromagnetic wave so that the wave is forced to follow a path defined by the physical structure of the guide.

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At col. 3, ln. 17-18 of Schmidt, "the microcompartment film consists of a light-scattering material", at ln. 25, "c) denotes the light-scattering microcompartment film", and at ln. 29-30, "f) denotes the waveguide plate/film (illumination unit), optional."

At col. 7, ln. 13-18, Schmidt states "[t]he optional illumination unit f) in FIG. 1) should facilitate uniform illumination of the composite films having electrically switchable optical properties, but should nevertheless be flat. The use of side-mounted light sources whose light is distributed over the entire field of view by a waveguide plate is suitable here." Further, at ln. 30-33, "[t]he optional illumination unit can be omitted if the composite film is applied to an illuminated background, which is then used as light source (backlight device)(FIG. 5)." Also, at ln. 36-44, "[s]uitable waveguide plates or diffuser plates contain particles which are colorless, but have different refractive indexes, in a colorless matrix material. The propagation direction of the light rays entering the plate is thereby subjected to a slight constant change, and the light exits at a very small angle uniformly distributed over the plate surface. Such waveguide plates are advantageously illuminated from one edge, so that uniform light emission over the plate surfaces is achieved due to light refraction."

It is thus clear that Schmidt teaches that if the device is not backlit as shown in FIG. 5, it must have a separate waveguide plate f). Schmidt teaches that the controlled transmission of light from a side source along the waveguide plate f) provides for the distribution of light in a distributed fashion to the microcompartment film. Schmidt does not teach or suggest that film c) and waveguide plate f) may be formed of a single layer, as implied by the Examiner. Schmidt suggests only that

the waveguide plate may be eliminated if the device is back illuminated instead of side illuminated.

The fact that the microcompartment film c) may be made of the same material as the waveguide layer f) does not lead to the conclusion that the microcompartment film c) functions as a waveguide layer. In other words, the fact that they may be made of the same material does not require that they perform the same function. It only leads to the conclusion that the same material may provide two different functions. Even when made of the same material, the microcompartment film does not provide the same function as the waveguide.

Further, to conclude that microcompartment film c) is a waveguide layer, requires the conclusion that the term "waveguide" is only a "light-scattering material." This is contrary to the actual meaning of waveguide, as is well known in the art, and as used by Schmidt. As stated in the quotes above, it is clear that Schmidt understands that a waveguide functions by guiding the light along the waveguide, which waveguide is defined by its boundaries. This use is consistent with common meanings discussed above.

A "microcompartment film that consists of a light-scattering material" is not a "waveguide". A holding of anticipation based upon Schmidt requires that every element of each claimed invention is disclosed in Schmidt. Schmidt does not disclose all of the features of any one of independent claims 1, 6, 7 and 29, which claims are repeated here.

1. A display device comprising a cell having a side, the cell containing a suspension fluid and at least one suspension particle dispersed within the suspension fluid, the suspension particle being adapted to migrate in the suspension fluid under the influence of an electric field; and a light waveguide layer extending adjacent to at least the side of the cell, the light waveguide layer adapted to conduct light into the cell through the side of the cell.

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6. An electrophoretic display device comprising:
a plurality of capsules, each capsule having a narrow end and a broad end, and sides connecting the ends, each capsule containing a suspension fluid and a plurality of suspension particles dispersed within the suspension fluid, the suspension particles being adapted to migrate in the suspension fluid under the influence of an electric field;

a light waveguide layer surrounding the sides of the capsules and adapted to conduct light along the light waveguide layer and laterally into the capsules through the sides, the narrow ends of the capsules extending through the light waveguide layer; and

electrodes supported adjacent to opposite ends of the capsules.

7. A method of making a display element comprising:
forming a light waveguide layer adapted to transmit light along a light path defined by the light waveguide layer; and

forming a cell containing a suspension fluid and at least one suspension particle dispersed within the suspension fluid, the suspension particle being adapted to migrate in the suspension fluid under the influence of an electric field, the cell extending into the light waveguide layer;

29. A display device comprising:
cell means containing a suspension fluid and at least one suspension particle dispersed within the suspension fluid, the suspension particle being adapted to migrate in the suspension fluid under influence of an electric field; and

light waveguide means extending adjacent a side of the cell means, the light waveguide means being adapted to conduct light into the cell means through the side of the cell means.

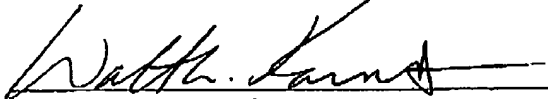
Further, the various interpretations of Schmidt made by the Examiner are also extensions beyond the disclosure of Schmidt, and are improper bases for finding anticipation. These "interpretations" result in a distortion and misapplication of Schmidt that lead to conclusions not shown or suggested by Schmidt. In the discussion of the various rejected claims, the Examiner repeatedly refers to layer c) of Schmidt as a waveguide layer. As discussed above, this is contrary to the disclosure in Schmidt.

Applicant acknowledges the Examiner's conclusions that claims 5 and 9-13 contain allowable subject matter. In view of the applicant's assertion that all of the claims contain allowable subject matter, no amendments have been made to the claims objected to.

Applicant believes that this application is in condition for allowance as filed. Accordingly, applicant respectfully requests that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to Examiner J. Martinez, Group Art Unit 2873, Assistant Commissioner for Patents, at facsimile number (703) 872-9306 on April 15, 2005.



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